

SFUND RECORDS CTR  
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## APPENDIX E

### VERIDIAN ENVIRONMENTAL DATA VALIDATION REPORTS

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APPENDIX E.1

FIRST QUARTER 2007 SOIL GAS VALIDATION REPORTS



"Truth through Science"

**Veridian**  
Environmental, Inc

March 19, 2007

Mr. Anand Helekar, PE  
TRC Solutions, Inc.  
21 Technology Drive  
Irvine, California 92618

Dear Mr. Helekar:

Enclosed is the quality assurance review of the organic data for samples collected between December 6, 2006 and January 6, 2007, as part of the Waste Disposal, Incorporated Superfund Site in Santa Fe Springs, California. This report includes samples from sample delivery groups (SDGs) P2603371, P2603389, P2603406, P2603461, P2603502, P2603530, and P2700092.

Overall, the data quality appears to be good. As requested, 10% of the data submitted was validated. No data were rejected; however, portions of the data were qualified due to holding time and calibration issues.

If you have any questions or comments, please feel free to call me.

Sincerely,

William G. Kay, M.S.  
Director of Chemistry

Enc.

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(Data included for completeness only; no samples were reviewed in this SDG.)
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(Data included for completeness only; no samples were reviewed in this SDG.)

**Section D     Project Correspondence**

## **Introduction**

This quality assurance review is based upon an examination of the data generated from the analyses of vapor samples collected between December 6, 2006 and January 6, 2007, as part of the Waste Disposal Incorporated Superfund Site in Santa Fe Springs, California. The samples included in this quality assurance review are presented on Table 1.

This review has been performed with guidance from the "National Functional Guidelines for Organic Data Review" (U.S. EPA, October 1999), the Region 9 Data Quality Indicator Tables for EPA Method TO-15 (U.S. EPA, January 1999), and the Quality Assurance Project Plan for the Waste Disposal, Inc. Superfund Site, Santa Fe Springs, California (TRC, revised September 2006).

The reported analytical results are presented on the laboratory Results of Analysis forms included in Section B, "Analytical Results." Data were examined to determine the usability of the analytical results and compliance relative to requirements specified by EPA methodology. In addition, the deliverables, which were prepared in a Contract Laboratory Program-like format, were evaluated. Qualifier codes have been manually placed next to results on the analysis reports, where necessary, so that the data user can quickly assess the qualitative and/or quantitative reliability of any result based on the criteria evaluated. Details of this QA review are presented in the narrative section of this report.

This critical QA review identifies data quality issues for specific samples and specific evaluation criteria. The data qualifications allow the data end-user to best understand the usability of the analytical results. Data that have not been qualified in this report should be considered valid based on the QC criteria that have been applied.

**TABLE 1****SAMPLES INCLUDED IN THIS QUALITY ASSURANCE REVIEW**

<b>TRC Sample Identification</b>	<b>Laboratory Sample Number</b>	<b>SDG</b>	<b>Date Sampled</b>	<b>Parameter(s) Examined</b>
WDI-VW-29-S-12-06-06	P2603371-001	P2603371	12/06/06	CH, FG, TO
WDI-VW-29-I-12-06-06	P2603371-002	P2603371	12/06/06	CH, FG, TO
WDI-VW-29-I-12-06-06 (Laboratory Duplicate)	P2603371-002 DUP	P2603371	12/06/06	FG
WDI-VW-29-D-12-06-06	P2603371-003	P2603371	12/06/06	CH, FG, TO
WDI-VW-46-S-12-06-06	P2603371-004	P2603371	12/06/06	CH, FG, TO
WDI-VW-46-D-12-06-06	P2603371-005	P2603371	12/06/06	CH, FG, TO
WDI-VW-46-D-12-06-06-SC	P2603371-006	P2603371	12/06/06	CH, FG, TO
<b>WDI-VW-46-I-12-06-06</b>	<b>P2603371-007</b>	<b>P2603371</b>	<b>12/06/06</b>	<b>CH, FG, TO</b>
WDI-VW-46-I-12-06-06 (Laboratory Duplicate)	P2603371-007 DUP	P2603371	12/06/06	TO
<b>WDI-IBM-41-12-06-06</b>	<b>P2603371-008</b>	<b>P2603371</b>	<b>12/06/06</b>	<b>CH, FG, TO, TO*</b>
WDI-IBM-32-12-06-06	P2603371-009	P2603371	12/06/06	CH, FG, TO, TO*
WDI-IBM-32-12-06-06 (Laboratory Duplicate)	P2603371-009 DUP	P2603371	12/06/06	TO*
WDI-IBM-49-12-06-06	P2603371-010	P2603371	12/06/06	CH, FG, TO, TO*
WDI-IBM-49-12-06-06 (Laboratory Duplicate)	P2603371-010 DUP	P2603371	12/06/06	TO
WDI-IBM-21-12-06-06	P2603371-011	P2603371	12/06/06	CH, FG, TO, TO*
WDI-VW-56-S-12-08-06	P2603389-001	P2603389	12/08/06	CH, FG, TO
WDI-VW-56-S-12-08-06-SC	P2603389-002	P2603389	12/08/06	CH, FG, TO
WDI-VW-56-I-12-08-06	P2603389-003	P2603389	12/08/06	CH, FG, TO
WDI-VW-56-D-12-08-06	P2603389-004	P2603389	12/08/06	CH, FG, TO
WDI-IBM-50-12-10-06	P2603406-001	P2603406	12/10/06	CH, FG, TO, TO*
WDI-IBM-28-12-10-06	P2603406-002	P2603406	12/10/06	CH, FG, TO, TO*
WDI-IBM-28-12-10-06	P2603406-002	P2603406	12/10/06	TO*



**TABLE 1 (Cont.)**

<b>TRC Sample Identification</b>	<b>Laboratory Sample Number</b>	<b>SDG</b>	<b>Date Sampled</b>	<b>Parameter(s) Examined</b>
WDI-IBM-24-12-10-06	P2603406-003	P2603406	12/10/06	CH, FG, TO, TO*
WDI-IBM-24-12-10-06 (Laboratory Duplicate)	P2603406-003 DUP	P2603406	12/10/06	TO
WDI-IBM-24B-12-10-06	P2603406-004	P2603406	12/10/06	CH, FG, TO, TO*
WDI-IBM-24B-12-10-06 (Laboratory Duplicate)	P2603406-004 DUP	P2603406	12/10/06	FG
<b>WDI-IBM-03B-12-10-06</b>	<b>P2603406-005</b>	<b>P2603406</b>	<b>12/10/06</b>	<b>CH, FG, TO, TO*</b>
WDI-IBM-03B-12-10-06 (Laboratory Duplicate)	P2603406-005 DUP	P2603406	12/10/06	CH, TO
WDI-IBM-50-12-10-06 SC	P2603406-006	P2603406	12/10/06	CH, FG, TO, TO*
<b>WDI-VW-31-S-12-12-06</b>	<b>P2603406-007</b>	<b>P2603406</b>	<b>12/12/06</b>	<b>CH, FG, TO</b>
WDI-VW-31-D-12-12-06	P2603406-008	P2603406	12/12/06	CH, FG, TO
WDI-VW-34-D-12-12-06	P2603406-009	P2603406	12/12/06	CH, FG, TO
WDI-VW-34-I-12-12-06	P2603406-010	P2603406	12/12/06	CH, FG, TO
WDI-VW-34-I-12-12-06 (Laboratory Duplicate)	P2603406-010 DUP	P2603406	12/12/06	TO
WDI-VW-34-S-12-12-06	P2603406-011	P2603406	12/12/06	CH, FG, TO
WDI-VW-34-I-12-12-06 SC	P2603406-012	P2603406	12/12/06	CH, FG, TO
WDI-VW-35-S-12-12-06	P2603461-001	P2603461	12/12/06	CH, FG, TO
WDI-VW-35-D-12-12-06	P2603461-002	P2603461	12/12/06	CH, FG, TO
WDI-VW-35-D-12-12-06 (Laboratory Duplicate)	P2603461-002 DUP	P2603461	12/12/06	FG
WDI-VW-58-I-12-14-06	P2603461-003	P2603461	12/14/06	CH, FG, TO
WDI-VW-58-S-12-14-06	P2603461-004	P2603461	12/14/06	CH, FG, TO
WDI-VW-58-S-12-14-06 (Laboratory Duplicate)	P2603461-004 DUP	P2603461	12/14/06	TO
WDI-VW-58-S-12-14-06 SC	P2603461-005	P2603461	12/14/06	CH, FG, TO
WDI-VW-58-D-12-14-06	P2603461-006	P2603461	12/14/06	CH, FG, TO

TABLE 1 (Cont.)

TRC Sample Identification	Laboratory Sample Number	SDG	Date Sampled	Parameter(s) Examined
WDI-VW-39-S-12-14-06	P2603461-007	P2603461	12/14/06	CH, FG, TO
WDI-VW-39-D-12-14-06	P2603461-008	P2603461	12/14/06	CH, FG, TO
WDI-VW-38-S-12-14-06	P2603461-009	P2603461	12/14/06	CH, FG, TO
<b>WDI-VW-38-D-12-14-06</b>	<b>P2603461-010</b>	<b>P2603461</b>	<b>12/14/06</b>	<b>CH, FG, TO</b>
WDI-VW-38-D-12-14-06 (Laboratory Duplicate)	P2603461-010 DUP	P2603461	12/14/06	CH
WDI-VW-49-S-12-19-06	P2603502-001	P2603502	12/19/06	CH, FG, TO
WDI-VW-49-S-12-19-06 (Laboratory Duplicate)	P2603502-001 DUP	P2603502	12/19/06	FG
WDI-VW-49-I-12-19-06	P2603502-002	P2603502	12/19/06	CH, FG, TO
WDI-VW-49-D-12-19-06	P2603502-003	P2603502	12/19/06	CH, FG, TO
WDI-VW-55-I-12-19-06	P2603502-004	P2603502	12/19/06	CH, FG, TO
WDI-VW-55-I-12-19-06 (Laboratory Duplicate)	P2603502-004 DUP	P2603502	12/19/06	CH, TO
WDI-VW-55-I-12-19-06-SC	P2603502-005	P2603502	12/19/06	CH, FG, TO
<b>WDI-VW-55-S-12-19-06</b>	<b>P2603502-006</b>	<b>P2603502</b>	<b>12/19/06</b>	<b>CH, FG, TO</b>
WDI-VW-55-S-12-19-06 (Laboratory Duplicate)	P2603502-006 DUP	P2603502	12/19/06	TO
WDI-VW-55-D-12-19-06	P2603502-007	P2603502	12/19/06	CH, FG, TO
WDI-VW-41-S-12-19-06	P2603502-008	P2603502	12/19/06	CH, FG, TO
WDI-VW-41-D-12-19-06	P2603502-009	P2603502	12/19/06	CH, FG, TO
WDI-VW-37-S-12-20-06	P2603502-010	P2603502	12/20/06	CH, FG, TO
WDI-VW-37-D-12-20-06	P2603502-011	P2603502	12/20/06	CH, FG, TO
WDI-VW-61-S-12-20-06	P2603530-001	P2603530	12/20/06	CH, FG, TO
WDI-VW-61-I-12-20-06	P2603530-002	P2603530	12/20/06	CH, FG, TO
WDI-VW-61-I-12-20-06 (Laboratory Duplicate)	P2603530-002 DUP	P2603530	12/20/06	FG
<b>WDI-VW-61-D-12-20-06</b>	<b>P2603530-003</b>	<b>P2603530</b>	<b>12/20/06</b>	<b>CH, FG, TO</b>

TABLE 1 (Cont.)

TRC Sample Identification	Laboratory Sample Number	SDG	Date Sampled	Parameter(s) Examined
WDI-VW-51-S-12-21-06	P2603530-004	P2603530	12/21/06	CH, FG, TO
WDI-VW-51-S-12-21-06 (Laboratory Duplicate)	P2603530-004 DUP	P2603530	12/21/06	CH
WDI-VW-51-I-12-21-06	P2603530-005	P2603530	12/21/06	CH, FG, TO
WDI-VW-51-I-12-21-06 (Laboratory Duplicate)	P2603530-005 DUP	P2603530	12/21/06	TO
<b>WDI-VW-51-D-12-21-06</b>	<b>P2603530-006</b>	<b>P2603530</b>	<b>12/21/06</b>	<b>CH, FG, TO</b>
WDI-VW-51-D-12-21-06 (Laboratory Duplicate)	P2603530-006 DUP	P2603530	12/21/06	TO
WDI-VW-30-S-12-21-06	P2603530-007	P2603530	12/21/06	CH, FG, TO
WDI-VW-30-I-12-21-06	P2603530-008	P2603530	12/21/06	CH, FG, TO
WDI-VW-30-D-12-21-06	P2603530-009	P2603530	12/21/06	CH, FG, TO
WDI-VW-62-S-12-21-06	P2603530-010	P2603530	12/21/06	CH, FG, TO
WDI-VW-62-I-12-21-06	P2603530-011	P2603530	12/21/06	CH, FG, TO
WDI-VW-62-D-12-21-06	P2603530-012	P2603530	12/21/06	CH, FG, TO
WDI-VW-62-12-21-06 Ambient	P2603530-013	P2603530	12/21/06	CH, FG, TO
WDI-VW-62-12-21-06 Ambient (Laboratory Duplicate)	P2603530-013 DUP	P2603530	12/21/06	TO
WDI-VW-36-S-12-21-06	P2603530-014	P2603530	12/21/06	CH, FG, TO
WDI-VW-36-D-12-21-06	P2603530-015	P2603530	12/21/06	CH, FG, TO
WDI-VW-42-S-12-22-06	P2603530-016	P2603530	12/22/06	CH, FG, TO
WDI-VW-42-D-12-22-06	P2603530-017	P2603530	12/22/06	CH, FG, TO
WDI-VW-42-12-22-06 Ambient	P2603530-018	P2603530	12/22/06	CH, FG, TO
WDI-VW-25-12-22-06	P2603530-019	P2603530	12/22/06	CH, FG, TO
WDI-VW-Trip Blank -01	P2603530-020	P2603530	12/22/06	CH
WDI-VW-Trip Blank -02	P2603530-021	P2603530	12/22/06	CH
WDI-VW-Trip Blank -03	P2603530-022	P2603530	12/22/06	CH

**TABLE 1 (Cont.)**

<b>TRC Sample Identification</b>	<b>Laboratory Sample Number</b>	<b>SDG</b>	<b>Date Sampled</b>	<b>Parameter(s) Examined</b>
WDI-IBM-03-1-6-07	P2700092-001	P2700092	01/06/07	CH, FG, TO
WDI-IBM-03-1-6-07 (Laboratory Duplicate)	P2700092-001 DUP	P2700092	01/06/07	FG

**Notes:**

CH - Methane and Total Gaseous Non-Methane Organics (as Methane) by U.S. EPA (EPA) Method 25C.

FG - Fixed Gases by EPA Method 3C.

TO - Volatile Organic Compounds by Method EPA TO-15.

TO\* - Vinyl Chloride and 1,2-Dibromoethane by Method EPA TO-15 SIM.

Samples in **bold** were reviewed.



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**Veridian**  
Environmental, Inc

## **SECTION A**

### **QUALITY ASSURANCE REVIEW**

## SECTION A QUALITY ASSURANCE REVIEW

### 1. Organic Data

The organic analyses of 71 air samples (including QC samples) were performed by Columbia Analytical Services, Inc., located in Simi Valley, California. The vapor samples were collectively analyzed for volatile organics by EPA Method TO-15, for vinyl chloride and 1,2-dibromomethane by EPA Method TO-15 SIM, for methane and total gaseous non-methane organics by EPA Method 25C, and for fixed gases by EPA Method 3C. The parameters for the analyses are specified in Table 1.

The findings offered in this report are based on a comprehensive review of the Level III deliverables for ten percent (10%) of the samples. The samples validated were **WDI-VW-46-I-12-06-06**, **WDI-IBM-41-12-06-06**, **WDI-IBM-03B-12-10-06**, **WDI-VW-31-S-12-12-06**, **WDI-VW-38-D-12-14-06**, **WDI-VW-55-S-12-19-06**, **WDI-VW-61-D-12-20-06**, and **WDI-VW-51-D-12-21-06**. The areas examined included holding times; blank analysis results; surrogate recoveries; laboratory duplicate precision; calibrations; retention time windows and shifts; laboratory control sample (LCS) recoveries; internal standard area counts; analytical sequence; and instrument sensitivity. Those samples validated exhibited the following exceptions. Data usability is addressed subsequently.

#### Comments

1. Based on the Case Narratives, Sample Acceptance Check Forms, and Chain-of-Custody Records, the samples were received intact and in good condition by the laboratory.
2. Based on the data provided, the samples listed in the following table were analyzed outside of the QAPP-specified 14-day holding time.

<u>Method</u>	<u>SDG</u>	<u>Samples Analyzed Outside of Holding Times</u>
EPA 3C	P2603530	WDI-VW-61-D-12-20-06
EPA 25C	P2603530	WDI-VW-61-D-12-20-06

3. A high percent difference (>10%) was observed for Total Gaseous Nonmethane Organics (TGNMO) as Methane (EPA Method 25C) in the following closing calibration standard.

<u>SDG</u>	<u>STD CCV (Date)</u>	<u>Instrument</u>	<u>Compound</u>	<u>Percent Difference</u>
P2603406	STD S14-10110605 (12/19/06)	GC#1	TGNMO-1	10.7%

4. The reported continuing calibrations for Methods 3C and 25C did not include all associated standards for all of the samples. Laboratory personnel verified that only the opening and closing standards were reported on the summary forms. Upon request, the laboratory issued revised case narratives which noted this issue and confirmed that all associated calibrations not previously summarized met method requirements.
5. Due to high concentrations of methane in the samples listed in the following table, the methane analysis was performed by EPA Method 3C instead of EPA Method 25C.

<u>SDG</u>	<u>Samples</u>
P2603502	WDI-VW-55-S-12-19-06
P2603530	WDI-VW-51-D-12-21-06

6. High percent differences (>30%) were noted for the following analytes in the Method TO-15 continuing calibrations listed below.

<u>SDG</u>	<u>CCV Date (Time)</u>	<u>Instrument</u>	<u>Analyte</u>	<u>Percent Difference</u>
P2603406	12/19/06 (10:40)	MS08	Acetone	-33.6%
P2603406	12/19/06 (19:58)	MS08	Vinyl chloride	31.7%
P2603530	12/29/06 (21 19)	MS08	Trichlorotrifluoroethane	33.8%

With regard to data usability, the areas of concern are holding times and continuing calibration issues. Based upon a rigorous review of the data provided, the following organic chemistry data qualifiers are offered. It should be noted that the following data usability issues represent an interpretation of the QC results for the project samples. Quite often, data qualifications address issues relating to problems associated with the sample matrix. Similarly, the validation guidelines routinely specify areas of the data that require qualification for which the analytical methods applied do not require corrective action by the laboratory. Accordingly, the following data usability issues should not be construed as an indication of laboratory performance.

### Organic Data Qualifiers

- The data for all analytes in the samples listed below may be higher than reported (UJ/J). These samples were analyzed and/or reanalyzed beyond the QAPP-specified holding time of 14 days after sample collection. Although the data have been qualified according to protocol, there is evidence that some of the target analytes may be stable in the sample container over longer periods of time. Consequently, the data may be valid as reported.

<u>Method</u>	<u>SDG</u>	<u>Sample(s) With Biased Detection Limits (UJ) and Estimated Positive Results (J)</u>
EPA 3C	P2603530	WDI-VW-61-D-12-20-06
EPA 25C	P2603530	WDI-VW-61-D-12-20-06

- The data for the following analytes in the samples listed below may be lower than reported (UJ/J) by the laboratory, due to high percent differences coupled with decreases in instrument sensitivity in the following continuing calibration standards.

<u>Method</u>	<u>SDG</u>	<u>Instrument Date (Time)</u>	<u>Analyte</u>	<u>Sample(s) With Estimated Positive Results (J)</u>
EPA 25C	P2603406	GC#1 12/19/06	TGNMO	WDI-IBM-03B-12-10-06 WDI-VW-31-S-12-12-06
TO-15	P2603406	MS08 12/19/06 (10:40)	Acetone	WDI-IBM-03B-12-10-06 WDI-VW-31-S-12-12-06

- The data for trichlorofluoromethane in the sample listed below may be higher than reported (J) by the laboratory, due to a high percent difference coupled with increases in instrument sensitivity in the following continuing calibration standard.

<u>Method</u>	<u>SDG</u>	<u>Instrument Date (Time)</u>	<u>Analyte</u>	<u>Sample(s) With Estimated Positive Results (J)</u>
TO-15	P2603530	MS08 12/29/06 (21:19)	Trichlorofluoromethane	WDI-VW-61-D-12-20-06



## 2. Conclusions


Based on this QA review, several organic results required qualification due to holding time and calibration issues. To confidently use any of the analytical data within this sample set, the data user should understand the qualifications and limitations of the results. The data validation support documentation, laboratory case narratives, and project chain-of-custody records are provided in Section C. Project correspondence is provided in Section D.

Report validated and prepared by:



Tracy A. Young  
Quality Assurance Chemist

Report approved by:



William G. Kay II  
Director of Chemistry

VERIDIAN ENVIRONMENTAL, INC.  
1111 Kennedy Place  
Suite 2  
Davis, California 95616  
(530) 758-1903

Date: March 19, 2007

## ORGANIC DATA QUALIFIERS

- J Quantitation is approximate due to limitations identified during the quality assurance review (data validation).
- UJ This compound was not detected, but the quantitation limit is probably higher due to a low bias identified during the quality assurance review.

**FIRST QUARTER 2007 SOIL GAS VALIDATION REPORTS  
(PROVIDED ON CD)**

## **UNSCANNABLE MEDIA**

To use the unscannable media document # 2142525  
contact the Region IX Superfund Records Center  
at (415) 536-2000.

APPENDIX E.2

SECOND QUARTER 2007 SOIL GAS VALIDATION REPORTS



"Truth through Science"

**Veridian**  
Environmental, Inc

June 11, 2007

Mr. Anand Helekar, PE  
TRC Solutions, Inc.  
21 Technology Drive  
Irvine, California 92618

Dear Mr. Helekar:

Enclosed is the revised quality assurance review of the organic data for samples collected between March 4, 2007 and March 25, 2007, as part of the Waste Disposal, Incorporated Superfund Site in Santa Fe Springs, California. This report includes samples from sample delivery groups (SDGs) P2700628, P2700675, P2700676, P2700710, P2700726, P2700782, P2700814, and P2700839.

Overall, the data quality appears to be good based on the data reviewed. As requested, a Level III validation was performed on ten percent (10%) of the vapor monitoring well samples (**WDI-VW-56-S-3-14-07**, **WDI-VW-58-I-3-14-07**, **WDI-VW-62-S-3-15-07**, **WDI-VW-62-S-3-15-07-SC**, **WDI-VW-62-I-3-15-07**, and **WDI-VW-62-D-3-15-07**) and for ten percent (10%) in-business air monitoring samples (**WDI-IBM-22-3-4-07** and **WDI-IBM-37-3-5-07**). No data were rejected; however, portions of the data were qualified due to calibration, holding time, and matrix inference issues.

If you have any questions or comments, please feel free to call me.

Sincerely,

William G. Kay, M.S.  
Director of Chemistry

Enc.

## **TABLE OF CONTENTS**

### **Introduction**

### **Table 1**

#### **Section A      Quality Assurance Review**

1.      Organic Data
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#### **Section B      Analytical Results**

1.    SDG P2700628
2.    SDG P2700675  
(Data included for completeness only; no samples were reviewed in this SDG.)
3.    SDG P2700676  
(Data included for completeness only; no samples were reviewed in this SDG )
4.    SDG P2700710  
(Data included for completeness only; no samples were reviewed in this SDG.)
5.    SDG P2700726
6.    SDG P2700782  
(Data included for completeness only; no samples were reviewed in this SDG.)
7.    SDG P2700814  
(Data included for completeness only, no samples were reviewed in this SDG.)
8.    SDG P2700839  
(Data included for completeness only, no samples were reviewed in this SDG )

**Section C      Data Validation Support Documentation, Laboratory Case Narratives,  
and Project Chain-of-Custody Records**

1. SDG P2700628
2. SDG P2700675  
(Data included for completeness only; no samples were reviewed in this SDG )
3. SDG P2700676  
(Data included for completeness only; no samples were reviewed in this SDG.)
4. SDG P2700710  
(Data included for completeness only; no samples were reviewed in this SDG.)
5. SDG P2700726
6. SDG P2700782  
(Data included for completeness only; no samples were reviewed in this SDG.)
7. SDG P2700814  
(Data included for completeness only; no samples were reviewed in this SDG.)
8. SDG P2700839  
(Data included for completeness only; no samples were reviewed in this SDG )

**Section D      Project Correspondence**





*"Truth through Science"*

**Veridian**  
Environmental, Inc

## **Introduction**

This quality assurance review is based upon an examination of the data generated from the analyses of vapor samples collected between March 4 and 25, 2007, as part of the Waste Disposal Incorporated Superfund Site in Santa Fe Springs, California. The samples included in this quality assurance review are presented on Table 1.

This review has been performed with guidance from the "National Functional Guidelines for Organic Data Review" (U.S. EPA, October 1999), the Region 9 Data Quality Indicator Tables for EPA Method TO-15 (U.S. EPA, January 1999), and the Quality Assurance Project Plan for the Waste Disposal, Inc. Superfund Site, Santa Fe Springs, California (TRC, revised September 2006).

The reported analytical results are presented on the laboratory Results of Analysis forms included in Section B, "Analytical Results." Data were examined to determine the usability of the analytical results and compliance relative to requirements specified by EPA methodology. In addition, the deliverables, which were prepared in a Contract Laboratory Program-like format, were evaluated. Qualifier codes have been manually placed next to results on the analysis reports, where necessary, so that the data user can quickly assess the qualitative and/or quantitative reliability of any result based on the criteria evaluated. Details of this QA review are presented in the narrative section of this report.

This critical QA review identifies data quality issues for specific samples and specific evaluation criteria. The data qualifications allow the data end-user to best understand the usability of the analytical results. Data that have not been qualified in this report should be considered valid based on the QC criteria that have been applied.

**TABLE 1****SAMPLES INCLUDED IN THIS QUALITY ASSURANCE REVIEW**

TRC Sample Identification	Laboratory Sample Number	SDG	Date Sampled	Parameter(s) Examined
WDI-IBM-22-3-4-07	P2700628-001	P2700628	3/4/07	CH, FG, TO, TO*
WDI-IBM-41-3-4-07	P2700628-002	P2700628	3/4/07	CH, FG, TO, TO*
WDI-IBM-41-3-4-07-SC (Field Duplicate of WDI-IBM-41-3-4-07)	P2700628-003	P2700628	3/4/07	CH, FG, TO, TO*
WDI-IBM-03-3-5-07	P2700628-004	P2700628	3/5/07	CH, FG, TO, TO*
WDI-IBM-37-3-7-07	P2700628-005	P2700628	3/7/07	CH, FG, TO, TO*
WDI-IBM-49-3-11-07	P2700675-001	P2700675	3/11/07	CH, FG, TO, TO*
WDI-IBM-49-3-11-07-SC (Field Duplicate of WDI-IBM-49-3-11-07)	P2700675-002	P2700675	3/11/07	CH, FG, TO, TO*
WDI-IBM-24-3-11-07	P2700675-003	P2700675	3/11/07	CH, FG, TO, TO*
WDI-IBM-24B-3-11-07	P2700676-001	P2700676	3/11/07	CH, FG, TO, TO*
WDI-IBM-32-3-11-07	P2700676-002	P2700676	3/11/07	CH, FG, TO, TO*
WDI-IBM-50-3-11-07	P2700676-003	P2700676	3/11/07	CH, FG, TO, TO*
WDI-IBM-50-3-11-07-SC (Field Duplicate of WDI-IBM-50-3-11-07)	P2700676-004	P2700676	3/11/07	CH, FG, TO, TO*
WDI-IBM-28-3-11-07	P2700676-005	P2700676	3/11/07	CH, FG, TO, TO*
WDI-VW-39-S-3-12-07	P2700710-001	P2700710	3/12/07	CH, FG, TO
WDI-VW-39-D-3-12-07	P2700710-002	P2700710	3/12/07	CH, FG, TO
WDI-VW-38-S-3-12-07	P2700710-003	P2700710	3/12/07	CH, FG, TO
WDI-VW-38D-3-12-07	P2700710-004	P2700710	3/12/07	CH, FG, TO
WDI-VW-37-S-3-12-07	P2700710-005	P2700710	3/12/07	CH, FG, TO
WDI-VW-37-D-3-12-07	P2700710-006	P2700710	3/12/07	CH, FG, TO
WDI-VW-37-D-3-12-07-SC (Field Duplicate of WDI-VW-37-D-3-12-07)	P2700710-007	P2700710	3/12/07	CH, FG, TO
WDI-VW-36-S-3-13-07	P2700710-008	P2700710	3/13/07	CH, FG, TO
WDI-VW-36D-3-13-07	P2700710-009	P2700710	3/13/07	CH, FG, TO

**TABLE 1 (Cont.)**

<b>TRC Sample Identification</b>	<b>Laboratory Sample Number</b>	<b>SDG</b>	<b>Date Sampled</b>	<b>Parameter(s) Examined</b>
WDI-VW-35-S-3-13-07	P2700710-010	P2700710	3/13/07	CH, FG, TO
WDI-VW-35-D-3-13-07	P2700710-011	P2700710	3/13/07	CH, FG, TO
WDI-VW-34-S-3-13-07	P2700710-012	P2700710	3/13/07	CH, FG, TO
WDI-VW-34-I-3-13-07	P2700710-013	P2700710	3/13/07	CH, FG, TO
WDI-VW-34-D-3-13-07	P2700710-014	P2700710	3/13/07	CH, FG, TO
WDI-VW-34-D-3-13-07-SC (Field Duplicate of WDI-VW-34-D-3-13-07)	P2700710-015	P2700710	3/13/07	CH, FG, TO
WDI-VW-55-S-3-14-07	P2700726-001	P2700726	3/14/07	CH, FG, TO
WDI-VW-55-I-3-14-07	P2700726-002	P2700726	3/14/07	CH, FG, TO
WDI-VW-55-I-3-14-07-SC (Field Duplicate of WDI-VW-55-I-3-14-07)	P2700726-003	P2700726	3/14/07	CH, FG, TO
WDI-VW-55-D-3-14-07	P2700726-004	P2700726	3/14/07	CH, FG, TO
<b>WDI-VW-56-S-3-14-07</b>	<b>P2700726-005</b>	<b>P2700726</b>	<b>3/14/07</b>	<b>CH, FG, TO</b>
WDI-VW-56-I-3-14-07	P2700726-006	P2700726	3/14/07	CH, FG, TO
WDI-VW-56-D-3-14-07	P2700726-007	P2700726	3/14/07	CH, FG, TO
WDI-VW-58-S-3-14-07	P2700726-008	P2700726	3/14/07	CH, FG, TO
<b>WDI-VW-58-I-3-14-07</b>	<b>P2700726-009</b>	<b>P2700726</b>	<b>3/14/07</b>	<b>CH, FG, TO</b>
WDI-VW-58-D-3-14-07	P2700726-010	P2700726	3/14/07	CH, FG, TO
<b>WDI-VW-62-S-3-15-07</b>	<b>P2700726-011</b>	<b>P2700726</b>	<b>3/15/07</b>	<b>CH, FG, TO</b>
WDI-VW-62-S-3-15-07-SC (Field Duplicate of WDI-VW-62-S-3-15-07)	P2700726-012	P2700726	3/15/07	CH, FG, TO
<b>WDI-VW-62-I-3-15-07</b>	<b>P2700726-013</b>	<b>P2700726</b>	<b>3/15/07</b>	<b>CH, FG, TO</b>
<b>WDI-VW-62-D-3-15-07</b>	<b>P2700726-014</b>	<b>P2700726</b>	<b>3/15/07</b>	<b>CH, FG, TO</b>
WDI-IBM-21-3-15-07	P2700782-001	P2700782	3/15/07	CH, FG, TO, TO*
WDI-VW-46-S-3-20-07	P2700814-001	P2700814	3/20/07	CH, FG, TO
WDI-VW-46-I-3-20-07	P2700814-002	P2700814	3/20/07	CH, FG, TO
WDI-VW-46-D-3-20-07	P2700814-003	P2700814	3/20/07	CH, FG, TO

**TABLE 1 (Cont.)**

<b>TRC Sample Identification</b>	<b>Laboratory Sample Number</b>	<b>SDG</b>	<b>Date Sampled</b>	<b>Parameter(s) Examined</b>
WDI-VW-61-S-3-20-07	P2700814-004	P2700814	3/20/07	CH, FG, TO
WDI-VW-61-I-3-20-07	P2700814-005	P2700814	3/20/07	CH, FG, TO
WDI-VW-61-D-3-20-07	P2700814-006	P2700814	3/20/07	CH, FG, TO
WDI-VW-29-S-3-20-07	P2700814-007	P2700814	3/20/07	CH, FG, TO
WDI-VW-29-I-3-20-07	P2700814-008	P2700814	3/20/07	CH, FG, TO
WDI-VW-29-D-3-20-07	P2700814-009	P2700814	3/20/07	CH, FG, TO
WDI-VW-49-S-3-15-07	P2700814-010	P2700814	3/15/07	CH, FG, TO
WDI-VW-49-I-3-15-07	P2700814-011	P2700814	3/15/07	CH, FG, TO
WDI-VW-49-D-3-15-07	P2700814-012	P2700814	3/15/07	CH, FG, TO
WDI-VW-31-S-3-20-07	P2700814-013	P2700814	3/20/07	CH, FG, TO
WDI-VW-31-D-3-20-07	P2700814-014	P2700814	3/20/07	CH, FG, TO
WDI-VW-42-S-3-20-07	P2700814-015	P2700814	3/20/07	CH, FG, TO
WDI-VW-42-D-3-20-07	P2700814-016	P2700814	3/20/07	CH, FG, TO
WDI-VW-42-D-3-20-07-SC (Field Duplicate of WDI-VW-42-D-3-20-07)	P2700814-017	P2700814	3/20/07	CH, FG, TO
WDI-VW-41-S-3-22-07	P2700814-018	P2700814	3/22/07	CH, FG, TO
WDI-VW-41-D-3-22-07	P2700814-019	P2700814	3/22/07	CH, FG, TO
WDI-VW-51-S-3-22-07	P2700814-020	P2700814	3/22/07	CH, FG, TO
WDI-VW-51-I-3-22-07	P2700814-021	P2700814	3/22/07	CH, FG, TO
WDI-VW-51-D-3-22-07	P2700814-022	P2700814	3/22/07	CH, FG, TO
WDI-VW-25-D-3-22-07	P2700814-023	P2700814	3/22/07	CH, FG, TO
WDI-VW-30-S-3-22-07	P2700814-024	P2700814	3/22/07	TO
WDI-VW-30-I-3-22-07	P2700814-025	P2700814	3/22/07	CH, FG, TO
WDI-VW-30-D-3-22-07	P2700814-026	P2700814	3/22/07	CH, FG, TO
WDI-VW-30-I-3-22-07-SC (Field Duplicate of WDI-VW-30-I-3-22-07)	P2700814-027	P2700814	3/22/07	CH, FG, TO

TABLE 1 (Cont.)

TRC Sample Identification	Laboratory Sample Number	SDG	Date Sampled	Parameter(s) Examined
WDI-VW-TRIP-BLANK	P2700814-028	P2700814	3/22/07	CH, FG, TO
WDI-VW-FIELD-BLANK	P2700814-029	P2700814	3/22/07	CH, FG, TO
WDI-IBM-038-3-25-07	P2700839-001	P2700839	3/25/07	CH, TO, TO*
WDI-IBM-TRIP-BLANK	P2700839-002	P2700839	3/25/07	CH, TO, TO*
WDI-IBM-FIELD-BLANK	P2700839-003	P2700839	3/25/07	CH, TO, TO*
WDI-IBM-FIELD-BLANK	P2700839-004	P2700839	3/25/07	CH, TO, TO*

## Notes:

CH - Methane and/or Total Gaseous Non-Methane Organics (as Methane) by U.S. EPA (EPA) Method 25C.

FG - Fixed Gases by EPA Method 3C.

TO - Volatile Organic Compounds by Method EPA TO-15.

TO\* - Vinyl Chloride and 1,2-Dibromoethane by Method EPA TO-15 SIM.

Samples in **bold** were reviewed.



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## **SECTION A**

### **QUALITY ASSURANCE REVIEW**

## SECTION A QUALITY ASSURANCE REVIEW

### 1. Organic Data

The organic analyses of 89 air samples (including Field QC samples) were performed by Columbia Analytical Services, Inc., located in Simi Valley, California. The vapor samples were collectively analyzed for volatile organics by EPA Method TO-15, for vinyl chloride and 1,2-dibromoethane by EPA Method TO-15 SIM, for methane and total gaseous non-methane organics by EPA Method 25C, and for fixed gases by EPA Method 3C. The parameters for the analyses are specified in Table 1.

The findings offered in this report are based on a comprehensive review of the Level III deliverables for ten percent (10%) of the vapor monitoring well samples (VW) and for ten percent (10%) in-business air monitoring samples (IBM). In addition, the groundwater treatment system effluent was reviewed to the Level II deliverable level. The samples validated were **WDI-VW-56-S-3-14-07**, **WDI-VW-58-I-3-14-07**, **WDI-VW-62-S-3-15-07**, **WDI-VW-62-S-3-15-07-SC**, **WDI-VW-62-I-3-15-07**, **WDI-VW-62-D-3-15-07**, **WDI-IBM-22-3-4-07**, and **WDI-IBM-37-3-5-07**. The areas examined for the Level III review included an examination of calibrations; retention time windows and shifts; internal standard area counts; analytical sequence; and instrument sensitivity. Those samples validated exhibited the following exceptions. Data usability is addressed subsequently.

### Comments

1. Based on the Case Narratives, Sample Acceptance Check Forms, and Chain-of-Custody Records, the samples were received intact and in good condition by the laboratory.
2. Based on the data provided, the samples listed in the following table were analyzed outside of the QAPP-specified 14-day holding time.

<u>Method</u>	<u>SDG</u>	<u>Samples Analyzed Outside of Holding Times</u>
EPA 3C	P2700628	WDI-IBM-22-3-4-07

3. The original Case Narrative for CAS Project Number P2700726 referenced the wrong laboratory project number (P270710). Upon request, the laboratory issued a revised case narrative with the correct project number.

4. According to the laboratory, the following results may be biased high due to matrix interferences.

<u>Method</u>	<u>SDG</u>	<u>Analyte</u>	<u>Samples with Matrix Interferences</u>
TO-15	P2700726	Vinyl Acetate	WDI-VW-62-D-3-15-07

5. A high percent difference (>10%) was observed for Total Gaseous Nonmethane Organics (TGNMO) as Methane (EPA Method 25C) in the following closing calibration standard.

<u>SDG</u>	<u>STD CCV (Date)</u>	<u>Instrument</u>	<u>Compound</u>	<u>Percent Difference</u>
P2700726	STD S14-12280601 (3/26/07)	GC#1	TGNMO-1	10.4%

6. Due to high concentrations of methane in the samples listed in the following table, the methane analysis was performed by EPA Method 3C instead of EPA Method 25C.

<u>SDG</u>	<u>Samples</u>
P2700726	WDI-VW-62-S-3-15-07 WDI-VW-62-S-3-15-07-SC

7. Due to a high concentration of tetrachloroethene, sample **WDI-IBM-37-3-7-07** (SDG 2700628) was analyzed at a lower volume for the TO-15 SIM analysis. As a result, the detection limits for vinyl chloride and 1,2-dibromoethane were higher.

With regard to data usability, the areas of concern are holding times and continuing calibration issues. Based upon a rigorous review of the data provided, the following organic chemistry data qualifiers are offered. It should be noted that the following data usability issues represent an interpretation of the QC results for the project samples. Quite often, data qualifications address issues relating to problems associated with the sample matrix. Similarly, the validation guidelines routinely specify areas of the data that require qualification for which the analytical methods applied do not require corrective action by the laboratory. Accordingly, the following data usability issues should not be construed as an indication of laboratory performance.



### Organic Data Qualifiers

- The data for all analytes in the samples listed below may be higher than reported (UJ/J). These samples were analyzed and/or reanalyzed beyond the QAPP-specified holding time of 14 days after sample collection. Although the data have been qualified according to the QAPP, the holding times according to these methods are greater than 14 days. Consequently, the data may be valid as reported.

<u>Method</u>	<u>SDG</u>	<u>Sample(s) With Biased Detection Limits (UJ) and Estimated Positive Results (J)</u>
EPA 3C	P2700628	WDI-IBM-22-3-4-07

- The data for the following analytes in the samples listed below may be biased high reported (J) by the laboratory, due to high percent differences coupled with increases in instrument sensitivity in the following continuing calibration standards.

<u>Method</u>	<u>SDG</u>	<u>Instrument Date (Time)</u>	<u>Analyte</u>	<u>Sample(s) With Estimated Results (J)</u>
EPA 25C	P2700726	GC#1 3/26/07	TGNMO	WDI-VW-56-S-3-14-07 WDI-VW-58-I-3-14-07 WDI-VW-62-S-3-15-07 WDI-VW-62-S-3-15-07-SC WDI-VW-62-I-3-15-07 WDI-VW-62-D-3-15-07

- According to the laboratory, the following result may be biased high due to matrix interferences.

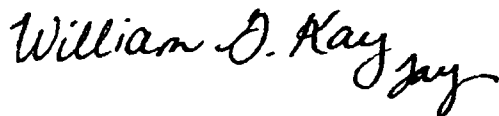
<u>Method</u>	<u>SDG</u>	<u>Analyte</u>	<u>Samples with Biased Results</u>
TO-15	P2700726	Vinyl Acetate	WDI-VW-62-D-3-15-07

- For the one field duplicate pair (sample WDI-VW-62-S-3-15-07 and its field duplicate, sample WDI-VW-62-S-3-15-07-SC) reviewed, acceptable precision and sample representativeness was demonstrated by all reported results in the field duplicate pair.

## 2. Conclusions

Based on this QA review, several organic results required qualification due to calibration, holding time, and matrix inference issues. To confidently use any of the analytical data within this sample set, the data user should understand the qualifications and limitations of the results. The data validation support documentation, laboratory case narratives, and project chain-of-custody records are provided in Section C. Project correspondence is provided in Section D.

Report prepared and approved by:



William G. Kay II  
Director of Chemistry

VERIDIAN ENVIRONMENTAL, INC.  
1111 Kennedy Place  
Suite 2  
Davis, California 95616  
(530) 758-1903

Date: June 11, 2007

## **ORGANIC DATA QUALIFIERS**

- J Quantitation is approximate due to limitations identified during the quality assurance review (data validation).

**SECOND QUARTER 2007 SOIL GAS VALIDATION REPORTS  
(PROVIDED ON CD)**

## **UNSCANNABLE MEDIA**

To use the unscannable media document # 2142525  
contact the Region IX Superfund Records Center  
at (415) 536-2000.

## APPENDIX E.3

### FIRST QUARTER 2007 GROUND WATER VALIDATION REPORTS



"Truth through Science"

**Veridian**  
Environmental, Inc

May 18, 2007

Mr. Anand Helekar, PE  
TRC Solutions, Inc.  
21 Technology Drive  
Irvine, California 92618

Dear Mr. Helekar:

Enclosed is the revised quality assurance review of the data for aqueous samples collected between December 11 and 13, 2006, as part of the Waste Disposal, Incorporated Superfund Site in Santa Fe Springs, California. This report includes samples from Test America Report Numbers IPL1216, IPL1285, and IPL1444.

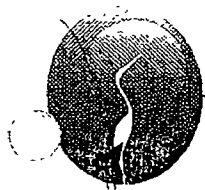
Overall, the data quality appears to be good. As requested, one randomly-selected sample (**WDIGMW-10**) was validated. The data for sample **WDIGMW-10** did not warrant qualification and were acceptable as reported.

If you have any questions or comments, please feel free to call me.

Sincerely,

William G. Kay, M.S.  
Director of Chemistry

Enc.



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**Veridian**  
Environmental, Inc

**QUALITY ASSURANCE REVIEW OF  
THE SAMPLES COLLECTED FOR THE  
WASTE DISPOSAL INCORPORATED SUPERFUND SITE  
SANTA FE SPRINGS, CALIFORNIA**

**Laboratory Report Numbers  
IPL1216, IPL1285, and IPL1444**

May 18, 2007

Prepared for:

**TRC Solutions, Inc.**  
21 Technology Drive  
Irvine, CA 92618

Prepared by:

**VERIDIAN ENVIRONMENTAL, INC.**  
1111 Kennedy Place  
Suite 2  
Davis, CA 95616



## **TABLE OF CONTENTS**

### **Introduction**

### **Table 1**

#### **Section A      Quality Assurance Review**

1.      Analytical Data
2.      Conclusions

#### **Section B      Analytical Results**

1.      Laboratory Report IPL1216
2.      Laboratory Report IPL1285
3.      Laboratory Report IPL1444

#### **Section C      Data Validation Support Documentation, Laboratory Case Narratives, and Project Chain-of-Custody Records**

1.      Laboratory Report IPL1216  
(Data included for completeness only; no samples were reviewed from this  
Laboratory Report.)
2.      Laboratory Report IPL1285
3.      Laboratory Report IPL1444  
(Data included for completeness only; no samples were reviewed from this  
Laboratory Report.)

## Introduction

This quality assurance review is based upon an examination of the data generated from the analyses of aqueous samples collected between December 11 and 13, 2006, as part of the Waste Disposal Incorporated Superfund Site in Santa Fe Springs, California. The samples included in this quality assurance review are presented on Table 1.

This review has been performed with guidance from the "National Functional Guidelines for Organic Data Review" (U.S. EPA, October 1999); "National Functional Guidelines for Inorganic Data Review" (U.S. EPA, October 2004); the Region 9 Data Quality Indicator Tables for EPA Methods 160.1 (U.S. EPA, November 1999), 200.7 (U.S. EPA, March 2001), 245.1 (U.S. EPA, March 2001), 300.0 (U.S. EPA, August 1993), 8260 (U.S. EPA, December 1999), 8270 (U.S. EPA, December 1999), and 9040 (U.S. EPA, January 2000); and the Quality Assurance Project Plan for the Waste Disposal, Inc. Superfund Site, Santa Fe Springs, California (TRC, revised September 2006).

The reported analytical results are presented on the laboratory Results of Analysis forms included in Section B, "Analytical Results." Data were examined to determine the usability of the analytical results and compliance relative to requirements specified by EPA methodology. In addition, the deliverables, which were prepared in a Contract Laboratory Program-like format, were evaluated. Qualifier codes have been manually placed next to results on the analysis reports, where necessary, so that the data user can quickly assess the qualitative and/or quantitative reliability of any result based on the criteria evaluated. Details of this QA review are presented in the narrative section of this report.

This critical QA review identifies data quality issues for specific samples and specific evaluation criteria. The data qualifications allow the data end-user to best understand the usability of the analytical results. Data that have not been qualified in this report should be considered valid based on the QC criteria that have been applied.

**TABLE 1****SAMPLES INCLUDED IN THIS QUALITY ASSURANCE REVIEW**

<b>TRC Sample Identification</b>	<b>Laboratory Sample Number</b>	<b>Laboratory Report</b>	<b>Date Sampled</b>	<b>Parameter(s) Examined</b>
WDIGMW30	IPL1216-01	IPL1216	12/11/2006	V, S, GC
WDIGMWFD30 (Field Duplicate of WDIGMW30)	IPL1216-02	IPL1216	12/11/2006	V, S, GC
WDIGMW33	IPL1216-03	IPL1216	12/11/2006	V, S, GC
WDIGMWFR01 (Rinseate Blank)	IPL1216-04	IPL1216	12/11/2006	V, S, GC
WDIGMWFB01 (Field Blank)	IPL1216-05	IPL1216	12/11/2006	V
WDIGMWFB01 (Trip Blank)	IPL1216-06	IPL1216	12/11/2006	V
WDIGMW-22	IPL1285-01	IPL1285	12/12/2006	V, S, M, GC
WDIGMW-01	IPL1285-02	IPL1285	12/12/2006	V, S, M, GC
WDIGMW-11	IPL1285-03	IPL1285	12/12/2006	V, S, M, GC
<b>WDIGMW-10</b>	<b>IPL1285-04</b>	<b>IPL1285</b>	<b>12/12/2006</b>	<b>V, S, M, GC</b>
WDIGMW-02	IPL1285-05	IPL1285	12/12/2006	V, S, M, GC
WDIGMWFD-11 (Field Duplicate of WDIGMW-11)	IPL1285-06	IPL1285	12/12/2006	V, S, M, GC
WDIGMWFB-01 (Field Blank)	IPL1285-07	IPL1285	12/12/2006	V, S, M, GC
WDIGMWFR-01 (Rinseate Blank)	IPL1285-08	IPL1285	12/12/2006	V
WDIGMWFB-01 (Trip Blank)	IPL1285-09	IPL1285	12/12/2006	V
WDIGMW-29	IPL1444-01	IPL1444	12/13/2006	V, S, M, GC
WDIGMW-27	IPL1444-02	IPL1444	12/13/2006	V, S, M, GC
WDIGMW-26	IPL1444-03	IPL1444	12/13/2006	V, S, M, GC
WDIGMWFB-01 (Field Blank)	IPL1444-04	IPL1444	12/13/2006	V

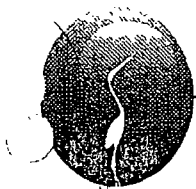
TABLE 1 (Cont.)

TRC Sample Identification	Laboratory Sample Number	Laboratory Report	Date Sampled	Parameter(s) Examined
WDIGMW-23	IPL1444-05	IPL1444	12/13/2006	V, S, M, GC
WDIGMW-32	IPL1444-06	IPL1444	12/13/2006	V, S, M, GC
WDIGMWFR-01 (Rinseate Blank)	IPL1444-07	IPL1444	12/13/2006	V, S, M, GC
WDIGMWTB-01 (Trip Blank)	IPL1444-08	IPL1444	12/13/2006	V

## Notes:

- V - Volatile Organics by U.S. EPA (EPA) Method 8260B.
- S - Semivolatile Organics by EPA Method 8270C.
- M - Metals (Al, As, Ba, Be, Ca, Cd, Cr, Co, Fe, Hg, Mg, Mn, Na, Ni, Pb, Sb, Se, Tl, V, Zn) by EPA Methods 6010B/7470A.
- GC - Chloride and Sulfate by EPA Method 300.0, Total Dissolved Solids by EPA Method 160.1, and for pH by Standards Methods Method SM4500-H,B.

Sample in **bold** was reviewed.



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## **SECTION A**

### **QUALITY ASSURANCE REVIEW**

## SECTION A QUALITY ASSURANCE REVIEW

### 1. Analytical Data

The organic analyses of 23 aqueous samples (including QC samples) were performed by Test America, located in Irvine, California. The aqueous samples were collectively analyzed for volatile organics by EPA Method 8260B; for semivolatile organics by EPA Method 8270C; for metals by EPA Methods 6010B/7470A; for chloride and sulfate by EPA Method 300.0; Total Dissolved Solids by EPA Method 160.1; and for pH by Standards Methods SM4500-H,B. The parameters for the analyses are specified in Table 1.

The findings offered in this report are based on a comprehensive review of the Level II deliverables for one randomly-selected sample (**WDIGMW-10**) of the samples.

#### *Organic Data*

The areas examined included field QC data (blanks and duplicates); holding times; laboratory batch QC data (blank, precision, and spike results); sample preservation; surrogate recoveries; and any additional laboratory data qualifiers. The sample validated exhibited the following exceptions. Data usability is addressed subsequently.

#### Comments

1. Based on the Case Narratives, Sample Acceptance Check Forms, and Chain-of-Custody Records, the samples were received intact and in good condition by the laboratory.
2. A high percent recovery was reported for bromomethane (173%) in the LCS associated with sample **WDIGMW-10**. Qualification of the data was not warranted since bromomethane was not detected in sample **WDIGMW-10**.
3. Since the volatile organic matrix spike/matrix spike duplicate analyses were not performed on sample **WDIGMW-10**, the matrix spike results were not evaluated. Consequently, matrix effects cannot be determined for this sample.
4. The laboratory did not perform a semivolatile organic matrix spike. Instead, the laboratory prepared and analyzed an LCS/LCSD pair. Consequently, matrix effects cannot be determined for this sample.

With regard to data usability, the data for sample **WDIGWM-10** are acceptable without qualification.

### ***Inorganic Data***

The areas examined included field QC data (blanks and duplicates); holding times, laboratory batch QC data (blank, precision, and spike results); and sample preservation. The sample validated exhibited the following exceptions. Data usability is addressed subsequently.

### **Comments**

1. Based on the Case Narratives, Sample Acceptance Check Forms, and Chain-of-Custody Records, the samples were received intact and in good condition by the laboratory. It should be noted that the metals in Laboratory Work Order IPL1216 were not analyzed as requested on the chain-of-custody record.
2. High relative percent differences were reported for aluminum (28%) and iron (28%) between the matrix spike and matrix spike duplicate of sample project sample **WDIGMW-22**. Qualification of the data was not warranted since aluminum and iron were not detected in sample **WDIGMW-10**. In addition, the native concentrations of calcium, magnesium, and sodium were greater than 4-times the spike level. Consequently, these data could not be used to determine matrix effects for this batch.
3. The analytes listed below were reported in the associated field blank. Since these analytes were reported in sample **WDIGMW-10** at concentrations greater than 5-times the blank level, qualification of the data was not warranted.

Blank ID	Analyte	Concentration
<b>WDIGMWFB-01</b>	Calcium	0.24 mg/L
	Iron	0.74 mg/L
	TDS	16 mg/L

With regard to data usability, the data for sample **WDIGWM-10** are acceptable without qualification.

TABLE 1 (Cont.)

**2. Conclusions**

Based on this QA review, the data for sample **WDIGMW-10** were acceptable without qualification. To confidently use any of the analytical data within this sample set, the data user should understand the qualifications and limitations of the results. The data validation support documentation, laboratory case narratives, and project chain-of-custody records are provided in Section C. Project correspondence is provided in Section D.

Report prepared and approved by:

A handwritten signature in black ink, appearing to read 'Will G Kay II', with a long horizontal line extending to the right.

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Date: May 18, 2007



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